

Appl. No.: 09/916,112
Amdt. dated 01/26/2005
Reply to Office Action of August 26, 2004

REMARKS/ARGUMENTS

The Applicant notes with appreciation the Examiner's thorough review of the present application as evidenced by the first Office Action. In light of the amendments submitted and the remarks that follow, the Applicant respectfully submits that all claims of the application are patentable.

Response to Objections to Drawings

On Page 2, Items 1 and 2 of the Office Action, the Examiner objected to the drawings based on the fact that Figures 4-9, 11, 13-15 and 17-19 contain grayscale shading. In response, Applicant has amended Figures 4-9, 11, 13-15 and 17-19 by removing the grayscale shading.

The Examiner further pointed out in the Office Action that letters and numbers should consist of clean black lines, and should be at least 1/8 inch in height. In response, Applicant has amended the figures as appropriate to ensure that all replacement figures comply with these requirements.

Finally, the Examiner objected to the drawings for not identifying the following elements in the drawings: design database file 34, XML meta documents 36, generated software application 40, and system installation program 44. In response, Applicant has included references to each of these elements in replacement Figure 1.

In light of the foregoing, Applicant submits that the attached replacement sheets of drawings overcome the objections, and Applicant respectfully requests that the objection to the figures be withdrawn.

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Response to Rejections under 35 U.S.C. §112

On Pages 3-4, Items 3-6 of the Office Action, the Examiner rejected Claims 9-13 under 35 U.S.C. §112 second paragraph as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. Specifically, the Examiner states that there is insufficient antecedent basis for the limitation “software application file” recited in Claim 9. (Office Action, pg. 3).

Applicant has amended Claim 9 to replace “at least one generated software application file” with “generated software application.” It is submitted that this amendment overcomes the rejection under 35 U.S.C. §112, second paragraph. Accordingly, Applicant respectfully requests that the rejection of Claims 9-13 under 35 U.S.C. §112 be withdrawn.

Response to Rejections under 35 U.S.C. §103(a)

A. Claims 1-8, 19 and 20

On Pages 4-10, Items 7 and 8 of the Office Action, the Examiner rejected Claims 1-8, 19 and 20 under 35 U.S.C. §103(a) as being unpatentable over U.S. Patent 6,343,625 to Glebov et al. (hereinafter “Glebov”) in view of “Building Enterprise Solutions with Visual Studio 6” by Benage et al. (hereinafter “Benage”).

The Examiner bears the initial burden of making out a *prima facie* case of obviousness. In order to do so, three basic requirements must be met. These requirements are as follows: (1) there must be some suggestion or motivation, either in the references themselves or in the knowledge generally available to one of ordinary skill in the art, to modify the reference or to combine reference teachings; (2) there must be a reasonable expectation of success; and (3) the prior art reference (or references when combined) must teach or suggest all the claim limitations. *See MPEP §2142, 8th Ed., Rev. 2; In re Vaeck, 947 F.2d 488 (Fed. Cir. 1991).*

For the reasons set forth below, Applicant respectfully asserts that there was no suggestion or motivation to combine the cited references (i.e., Glebov and Benage) as suggested by the Examiner. In addition, Applicant respectfully asserts that neither Glebov nor Benage,

whether considered individually or in combination, teach or suggest all of the limitations of independent Claims 1 and 19.

For the reasons set forth below, therefore, Applicant respectfully requests that the current rejection of Claims 1-8, 19 and 20 be withdrawn.

1. Independent Claim 1

Independent Claim 1 is directed to a method for automatically generating a software application on a first computer. This claim is reproduced below for the Examiner's convenience:

1. (Original) A method for automatically generating a software application on a first computer, comprising:
 - defining a system design;
 - creating a design database file associated with said system design;
 - converting said design database file to a meta document;
 - generating an installation program from said meta document; and
 - installing at least part of said software application by executing said installation program.

It is respectfully submitted that because there is no motivation or suggestion to combine the cited references, the Office Action fails to make out a *prima facie* case of obviousness. Specifically, because Benage fails to discuss the use of metadata or a meta document in its installation process, a person of ordinary skill in the art would not have been motivated to combine the teachings of Benage with that of Glebov.

Benage teaches the creation of a standard installation setup for a Visual Basic application through the direct manipulation of "project files." (Benage, pg. 398-394). Specifically, Benage provides the "process for creating an Internet package [and] installing the application," wherein a user is prompted to first "locate the project file" for the application the user wishes to install. (*Id.*) Following a series of steps performed by the designer, a package including "application files" is placed on a path that the designer has specified. (*Id.*) Benage does not teach or suggest

the creation or manipulation of metadata in this process. Rather, the process taught by Benage involves the creation and direct manipulation of “project files.” A “project,” with respect to Visual Basic applications, is defined as “a collection of files that make up your application. A single application might consist of several files, and the project is the collection of those files. One or more of the files might contain code, one or more of the files might contain descriptions of the screens inside their respective form windows, and one or more of the files might contain advanced programming information that your program will use to communicate with other programs and modules inside the operating system.” (“Sam’s Teach Yourself Visual Basic 6 in 21 Days,” by Greg Perry, pg. 19).

By contrast, Glebov teaches a “mapping system 40 [that] maps the data in the design model 38, which provides the initial definition of the objects, to metadata 42 that is then retained in a common repository” (Glebov, col. 4 ln 51-54). Any installation process for the application created in Glebov would necessarily, therefore, involve the manipulation of the metadata being stored in the common repository, as opposed to the data or file itself. Based on this distinction, and what was known in the art at the time of Applicant’s invention, a person of ordinary skill would not have been motivated to combine the two references.

A further argument against the combination of Glebov and Benage is that Glebov in fact teaches away from Applicant’s invention. Specifically, Glebov fails entirely to discuss an installation process. There is, therefore, no teaching or suggestion in Glebov to use anything other than the typical manual installation process. This lack of teaching would lead one of ordinary skill in the art to assume that the normal means of installation should be utilized. By contrast, Applicant’s invention claims the generation of an installation program directly from a meta document, where the meta document is the product of the conversion of a design database file associated with a designer-defined system design. For this reason, Glebov teaches away from the claimed invention and should, therefore, not be the basis for an obviousness rejection.

It is further submitted that even if the Examiner successfully argued that there was a motivation or suggestion to combine, independent Claim 1 is nonetheless patentable over Glebov in view of Benage because neither Glebov nor Benage teaches or suggests all of the limitations of Claim 1. For example, these references do not teach or suggest (1) generating an installation

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program *from said meta document*; and (2) installing at least part of said software application by execution of said installation program.

The Examiner concedes that Glebov does not expressly disclose “generating an installation program from a meta document;” and “installing at least part of said software application by executing said installation program,” as recited in Claim 1. (Office Action, pg. 3). However, the Examiner relies on Benage for such teachings. However, as discussed above, Benage does not teach or suggest generating an installation program *from a meta document*, and it thus necessarily fails to disclose installing at least part of said software application by executing the installation program generated. Instead, Benage discloses the direct manipulation of application files in its installation process. For this reason, the combination of Glebov and Benage does not teach or suggest each and every claimed limitation of independent Claim 1.

For the reasons stated above, Applicant respectfully requests that the rejection of independent Claim 1 be withdrawn.

Claims 2 – 8 depend from Claim 1 and include all limitations of that Claim. Thus, for at least the reasons stated above with respect to Claim 1, it is submitted that Claims 2 – 8 are patentable over the prior art. Claims 2 – 8 further recite additional limitations not disclosed in the prior art. For example, Claims 2 – 4 further define the step of installing at least part of the installation application recited in Claim 1, by reciting transmitting the installation program from the first computer to a second computer (Claim 2); creating a setup package to automate at least part of an installation and customization of the software application (Claim 3); and creating one or more files to allow the software application to be installed in a second computer (Claim 4). As discussed above, the installation program as recited in Claim 1 is not disclosed in the prior art. These limitations, therefore, are further not disclosed in the prior art. Thus, for these reasons and those discussed above, Applicant respectfully asserts that Claims 2 – 8 are patentable over the cited art.

2. Independent Claim 19

Independent Claim 19 is directed to a method of generating a software application. This claim, as currently amended, is reproduced below for the Examiner's convenience:

19. A method for generating a software application, comprising:
 - receiving system design, wherein said system design defines at least one entity;
 - generating destination directories;
 - generating virtual directories;
 - establishing database connections;
 - creating procedure code;
 - creating controller classes, said controller classes providing logic for said at least one entity;
 - creating object business code for said at least one entity;
 - creating at least one web browser template file;
 - generating security logic; and
 - automatically generating a project file to link the destination directories, virtual directories, database connections, procedure code, controller classes, object business code, web browser template file, and security logic, to generate the software application.

Applicant respectfully asserts that the Examiner has failed to make out a *prima facie* case of obviousness with respect to independent Claim 19 at least in part because neither Glebov, nor Benage, whether considered individually or in combination, teaches or suggests all of the limitations of Claim 19, above. For instance, neither Glebov nor Benage teaches the step of "creating procedure code." The Examiner relies on the portion of Glebov, which reads "[t]he developer may use an application development tool 46 to modify and manipulate the metadata 42 in the common repository 44 to develop and implement the objects defined therein to complete the design process." (Glebov, col. 5, ln 1-4) (Office Action, pg. 8). Nothing in the above cited

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section teaches or suggests the creation of a procedure code, as taught by Applicant. As discussed in Applicant's specification, the step of creating a procedure code occurs *after* the system design has been defined and during the process of generating the application from the design database file. (Application, pg. 16). By contrast, the above referenced section of Glebov deals with the completion of the design process.

For at least the reasons stated above, Applicant respectfully requests that the rejection of independent Claim 19 be withdrawn.

Claim 20 depends from Claim 19 and includes all limitations of that Claim. Thus, for at least the reasons stated above with respect to Claim 19, it is submitted that Claim 20 is patentable over the prior art.

B. Claims 9, 12 and 13

On Page 11, Item 11 of the Office Action, the Examiner rejected Claims 9, 12 and 13 under 35 U.S.C. §103(a) as being unpatentable over the combination of Glebov and Benage as applied to Claim 1, and further in view of "IBM Component Broker on System/390" by Gregor et al. (hereinafter "Gregor"). For the reasons set forth below, Applicant respectfully asserts that a *prima facie* case of obviousness has not been established for the above-referenced claims. Accordingly, Applicant respectfully requests that the current rejection of Claims 9, 12 and 13 be withdrawn.

1. Dependent Claim 9

Dependent Claim 9 includes all of the limitations of Claim 1 plus additional limitations that are not taught or suggested by the prior art. Specifically, in addition to the limitations of Claim 1, Claim 9 further claims configuring a target database server and establishing a communication between said target database server and at least one of the generated software application files. This limitation is not disclosed in Glebov, Benage, or Gregor, whether considered individually or in combination. Thus, for this reason and for the reasons stated above

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with respect to independent Claim 1, Applicant respectfully asserts that dependent Claim 9 is patentable over the art cited by the Examiner.

In addition, Applicant respectfully asserts that Claim 9 is separately patentable over the cited art. The Examiner concedes that while Glebov discloses “configuring a target database,” it does not disclose “configuring a target database *server* and establishing communications between said target database server and at least one generated software application file.” (Office Action pg. 12). For this, the Examiner relies on Gregor. (*Id.*). Applicant respectfully traverses the Office Action’s conclusion with respect to Glebov. Specifically, Applicant asserts that Glebov does not in fact teach “configuring a target database.” The target database of Applicant’s invention is directly related to the installation of the design system. By contrast, as discussed above, Glebov does not disclose an installation process at all. The common repository of Glebov that the Office Action refers to is used to store the metadata associated with the pre-installed design model, and is thus not comparable to the “target database” recited in Claim 9. (Glebov, col. 2, ln 10-11; col. 4 ln 51-54).

For the reasons stated above, Applicant respectfully requests that the rejection of Claim 9 be withdrawn.

2. Dependent Claims 12 and 13

Dependent Claims 12 and 13 include all of the limitations of Claim 1 and Claim 9 plus additional limitations that are not taught or suggested by the prior art. Specifically, Claims 12 and 13 further define the step of installing at least part of the software application. Since the installation of the software application as recited in Claims 1 and 9 is not disclosed in the cited references, these additional limitations are further by definition not disclosed in the cited art. For this reason and for the reasons stated above with respect to independent Claim 1 and dependent Claim 9, Applicant respectfully asserts that dependent Claims 12 and 13 are patentable over the art cited by the Examiner.

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C. Claim 10

On Page 10, Item 9 of the Office Action, the Examiner rejected Claim 10 under 35 U.S.C. §103(a) as being unpatentable over the combination of Glebov and Benage as applied to Claim 9 above, and further in view of “Computer User’s Dictionary” by Microsoft Press (hereinafter “Microsoft Dictionary”). Dependent Claim 10 includes all of the limitations of Claims 1 and Claim 9, plus additional limitations that are not disclosed in the prior art. Specifically, Claim 10 recites installing reports server software on an application server as further defining the step of installing at least part of the software application. Thus, this limitation is not disclosed in Glebov, Benage, Microsoft Dictionary, whether considered individually or in combination. For this reason, and for the reasons stated above with respect to the patentability of independent Claim 1 and dependent Claim 9, Applicant respectfully asserts that dependent Claim 10 is patentable over the cited art. Accordingly, Applicant respectfully requests that the current rejection of dependent Claim 10 be withdrawn.

D. Claim 11

On Page 11, Item 10 of the Office Action, Claim 11 was rejected under 35 U.S.C. §103(a) as being unpatentable over the combination of Glebov and Benage as applied to Claim 9 above, and further in view of U.S. Patent 4,605,820 to Campbell, Jr. (hereinafter “Campbell”). For the reasons set forth below, Applicant respectfully asserts that a prima facie case of obviousness has not been established for the above-referenced claim. Accordingly, Applicant respectfully requests that the current rejection of dependent Claim 11 be withdrawn.

Dependent Claim 11 includes all of the limitations of Claim 1 and 9, plus additional limitations that are not taught or suggested by the prior art. For the reasons stated above with respect to the patentability of independent Claim 1 and dependent Claim 9, Applicant respectfully asserts that dependent Claim 11 is patentable over the cited art.

In addition, Applicant further asserts that dependent Claim 11 is separately patentable over the combination of Glebov, Benage and Campbell. The Examiner concedes that Glebov

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“does not expressly disclose: *installing application code to create and update a key generation table.*” (Office Action, pg. 11). However, the Examiner relies on Campbell for such teaching. (*Id.*). Campbell is directed to “a new and improved key management system particularly suited to facilitate communication between point of sale terminals and a host processor.” (Campbell, Abstract). No mention is made in Campbell with respect to “design models” or “application development tools,” which are key features of Glebov. In fact, Campbell is unrelated to application design. It would therefore have not been obvious to one of skill in the art to combine the teachings of the Glebov and Benage with that of Campbell.

Applicant further respectfully asserts that even if Glebov, Benage and Campbell were combined, the combination would not teach or suggest each claimed limitation of dependent Claim 11. For instance, none of the above cited references teaches or suggests installing application code to create and update a key generation table. The section titled “Generation of Primary Key Table” in Campbell details the invention’s process for creating a key generation table. (Campbell, col. 3 ln 19-68, col. 4, ln 1-13). No mention is made in this section, or throughout the application, of installing an application code that will create the key generation table. As stated in Applicant’s specification, in order to “allow generated applications to perform well regardless of the database platform, the present invention has the generated software application [as opposed to the database itself] generate its own key indexes.” (Application, pg. 26). Campbell does not teach or suggest this claimed limitation.

For the reasons stated above, Applicant respectfully requests that the Examiner withdraw the rejection of dependent Claim 11.

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E. Claims 14-18

On Page 13, Item 12 of the Office Action, the Examiner rejected Claims 14-18 under 35 U.S.C. §103(a) as being unpatentable over Glebov in view of Gregor. For the reasons set forth below, Applicant respectfully asserts that the cited references (i.e., Glebov and Gregor) do not teach or suggest all of the limitations of independent Claim 14. In addition, Applicant respectfully assertsthat there was no suggestion or motivation to combine Glebov and Gregor.

1. Independent Claim 14

Independent Claim 14 is directed to a system for developing a computer-generated software application. This claim is reproduced below for the Examiner's convenience:

14. (Currently Amended) A system for developing a computer-generated software application, comprising:

a designer computer;

a design application residing on said designer computer, said design application configured to receive a system design and create a design database file; and

a generator application in communication with said design application, configured to receive said design database file and generate said computer-generated software application, wherein said computer-generated software application includes a presentation tier, a business tier and a data tier.

It is respectfully submitted that neither Glebov nor Gregor teaches or suggests all of the limitations of Claim 14, above. Specifically, neither teaches or suggests the generation of a computer-generated software application including presentation tier, business tier and data tier. The Examiner concedes that Glebov "does not expressly disclose: *wherein said computer-generated software application includes a presentation tier, a business tier and a data tier.*" (Office Action, pg. 14). The Office Action relies on Gregor for such teaching. (*Id.*). While Gregor does disclose that "a distributed computing solution for many enterprises today" includes

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the three above mentioned tiers, neither Glebov nor Gregor teaches or suggests the generation of a complete multi-tiered software application from a design database file nor applications residing on a designer computer which do so. As stated in Applicant's specification, "a need ... exists for systems and methods that generate *complete* multi-tiered software applications from design specifications." (Application, pg. 2).

2. Dependent Claims 15-18

Claims 15 – 18 depend from independent Claim 14, and include all of the limitations of independent Claim 14 plus additional limitations that are not taught or suggested by the prior art. For example, Claim 17 recites a generator application configured to convert the design database file into an extensible markup language file. As stated above, neither Glebov nor Gregor teaches or suggests the generation of a complete multi-tiered software application from a design database file. Neither Glebov nor Gregor, whether taken individually or in combination, therefore, disclose the limitations of Claim 17. For this reason, and the reasons set forth above, Applicant respectfully assert that dependent Claims 15-18 are patentable over the prior art cited by the Examiner. Accordingly, Applicant respectfully requests that the current rejection of these claims be withdrawn.

Miscellaneous Remarks

Applicant has amended Independent Claim 19 in order to provide greater clarity as to what the Applicant is claiming as their invention. This amendment was not offered for any reasons relating to the patentability of Claim 19. Applicant, therefore, retains the right to assert all equivalents with respect to Claim 19.

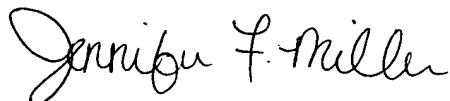
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CONCLUSION

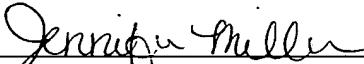
Applicant respectfully submits that independent Claims 1, 14 and 19, and, as a matter of law, those claims depending therefrom, are in condition for allowance. Therefore Applicant requests that the rejections made in the Office Action be withdrawn and that a Notice of Allowance be issued in the case.

It is not believed that extensions of time or fees for net addition of claims are required, beyond those that may otherwise be provided for in documents accompanying this paper. However, in the event that additional extensions of time are necessary to allow consideration of this paper, such extensions are hereby petitioned under 37 CFR § 1.136(a), and any fee required therefore (including fees for net addition of claims) is hereby authorized to be charged to Deposit Account No. 16-0605.

Respectfully submitted,



Jennifer F. Miller
Registration No. 56,278

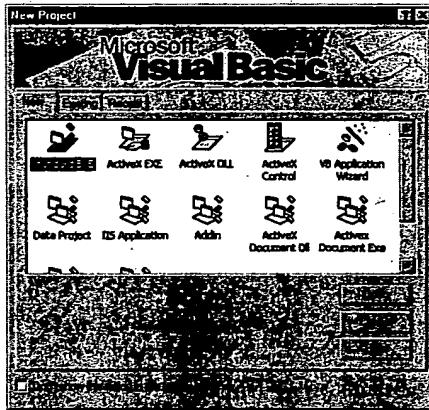
Customer No. 00826 ALSTON & BIRD LLP Bank of America Plaza 101 South Tryon Street, Suite 4000 Charlotte, NC 28280-4000 Tel Atlanta Office (404) 881-7000 Fax Atlanta Office (404) 881-7777	"Express Mail" mailing label number EL 952 539 152 US Date of Deposit January 26, 2005 I hereby certify that this paper or fee is being deposited with the United States Postal Service "Express Mail Post Office to Addressee" service under 37 CFR 1.10 on the date indicated above and is addressed to: Mail Stop Amendment, Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450  Jennifer Miller
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As soon as you start Visual Basic, the Application wizard is there to help. The New Project dialog box, shown in Figure 1.3, appears when you start Visual Basic from the Windows Start menu. The tabs on the New Project dialog box offer these choices:

- **New** lets you create new applications by using various wizards or starting from scratch.
- **Existing** lets you select and open an existing Visual Basic *project*.
- **Recent** displays a list of Visual Basic projects you've recently opened or created.

FIGURE 1.3.

You can select the Application wizard from the New Project dialog box.



If you cancel the New Project dialog box, and then later want to start the Application wizard, select File, New Project to display the New Project dialog box once again. This New Project dialog box will not contain the Recent and Existing tabbed pages, however, because you are specifying from your menu choice that you want to create a new project.

NEW TERM

A *project* is a collection of files that make up your application. A single application might consist of several files, and the project is the collection of those files.

One or more of the files might contain code, one or more of the files might contain descriptions of screens inside their respective form windows, and one or more of the files might contain advanced programming information that your program will use to communicate with other programs and modules inside the operating system.

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AMENDMENTS TO THE DRAWINGS

The attached drawings include changes to Figures 1-19 and should replace the original Figures 1-19. In Figure 1, previously omitted elements 34, 36, 38A, 40 and 44 have been added. In addition, Figures 4-9, 11, 13-15 and 17-19 have been amended to remove the grayscale shading. Each Figure has further been amended to ensure that all numbers and letters comply with 37 CFR 1.84(p).

Attachment: Replacement Figures 1-19